

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference NEB-238-PCT	<b>FOR FURTHER ACTION</b>	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US05/02029	International filing date (day/month/year) 21 January 2005 (21.01.2005)	(Earliest) Priority Date (day/month/year) 23 January 2004 (23.01.2004)
Applicant NEW ENGLAND BIOLABS, INC.		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 4 sheets.



It is also accompanied by a copy of each prior art document cited in this report.

## 1. Basis of the Report

- a. With regard to the language, the international search was carried out on the basis of:

the international application in the language in which it was filed.  
a translation of the international application into \_\_\_\_\_, which is the language  
of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))

- b.  With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I.

2.  Certain claims were found unsearchable (See Box No. II)

3.  Unity of invention is lacking (See Box No. III)

## 4. With regard to the title,

the text is approved as submitted by the applicant.  
the text has been established by this Authority to read as follows:

## 5. With regard to the abstract,

the text is approved as submitted by the applicant.  
the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant  
may, within one month from the date of mailing of this international search report, submit comments to this Authority.

## 6. With regard to the drawings,

- a. the figure of the drawings to be published with the abstract is Figure No. \_\_\_\_\_

as suggested by the applicant.  
as selected by this Authority, because the applicant failed to suggest a figure.  
as selected by this Authority, because this figure better characterizes the invention.

- b.  none of the figures is to be published with the abstract.

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**Box No. I Nucleotide and/or amino acid sequence(s) (Continuation of item 1.b of the first sheet)**

1. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, the international search was carried out on the basis of:

## a. type of material

- a sequence listing  
 table(s) related to the sequence listing

## b. format of material

- on paper  
 in electronic form

## c. time of filing/furnishing

- contained in the international application as filed  
 filed together with the international application in electronic form  
 furnished subsequently to this Authority for the purposes of search

2.  In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

3. Additional comments:

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International application No.

PCT/US05/02029

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) : C12Q 1/68; A01N 43/04; C07H 21/04; A61K 31/07  
 US CL : 435/6, 91.1, 325, 375; 536/23.1, 24.3, 24.33, 24.5; 514/44

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
 U.S. : 435/6, 91.1, 325, 375; 536/23.1, 24.3, 24.33, 24.5; 514/44

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
 Please See Continuation Sheet

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	BYROM et al. Inducing RNAi with siRNA cocktails generated by RNase III. Ambion TechNotes Newsletter, 2003 Vol. 10, No. 1, pages 4-7, see Abstract.	1, 2, 5-9, 11, 12, 15, 24, and 26-28
Y	SUN et al. Mechanism of action of Escherichia coli ribonuclease III. Stringent chemical requirement for the glutamic acid 117 side chain and Mn <sup>2+</sup> rescue of the Glu117 Asp Mutant. Biochemistry, 2001 Vol. 40, pages 5102-5110, see Abstract.	1, 2, 5-9, 11, 12, 15, 24, and 26-28
A	Caplen et al. RNAi as a gene therapy approach. Gene Therapy, 2003 Vol. 3, pages 575-586, see entire article.	14, 16-23, and 25
A	Coburn et al. siRNAs: a new wave of RNA-based therapeutics. J Anti Chemo, 2003 Vol. 51, pages 753-756, see entire article.	14, 16-23, and 25
A	Agami et al. RNAi and related mechanisms and their potential use for therapy. Curr Opin in Chem Bio, 2002 Vol. 6, pages 829-834, see entire article.	14, 16-23, and 25

 Further documents are listed in the continuation of Box C.

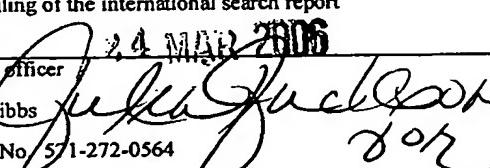
See patent family annex.

Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier application or patent published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means		
"P" document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search

04 January 2006 (04.01.2006)

Date of mailing of the international search report

24 MAR 2006  
  
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**INTERNATIONAL SEARCH REPORT**

International application No. PCT/US05/02029
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Continuation of B. FIELDS SEARCHED Item 3:  
databases: WEST, STN, Medline, and NPL  
search terms: dsRNA, double stranded RNA, short dsRNA, mutat?, mutan?, RNA iii